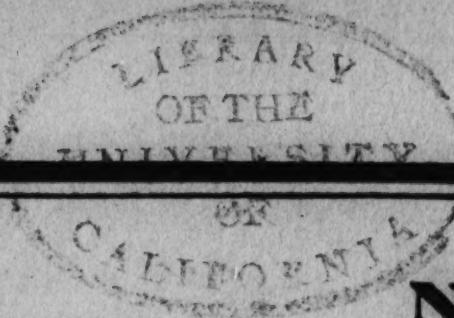


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MAR 8 1918



XI
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No. 3

THE CALIFORNIA ECLECTIC MEDICAL JOURNAL

Incorporating
**THE LOS ANGELES JOURNAL OF ECLECTIC MEDICINE
AND THE CALIFORNIA MEDICAL JOURNAL**

ISSUED MONTHLY

MARCH, 1918

O. C. WELBOURN, A. M., M. D., Editor

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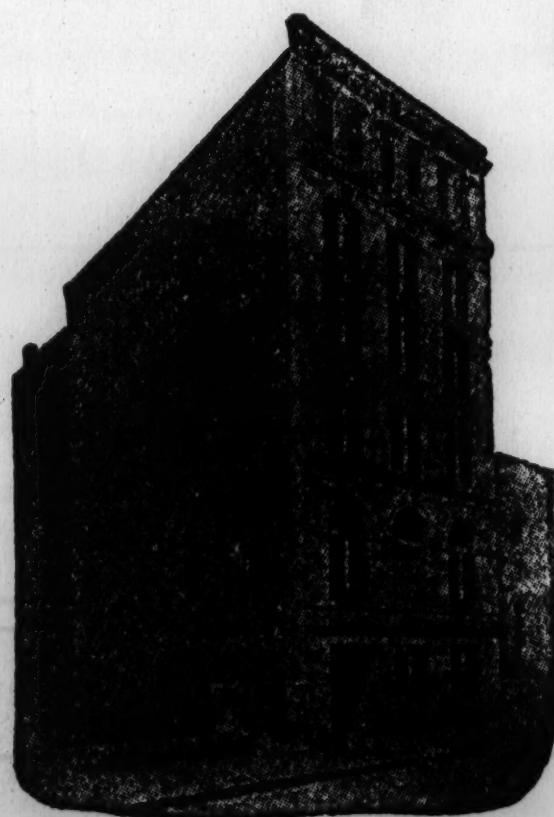
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The California Eclectic Medical Journal

Vol. XXXIX

MARCH, 1918

No. 3

Original Contributions

SPINAL ANESTHESIA, OR SPINAL ANALGESIA

Its Field and Peculiarities

A report of 487 cases, as given by Harry Theodore Cooke, M. D., Chief Anaesthetist, at the Los Angeles County Hospital, during the year of 1917.

To me the question of anaesthesia is always an interesting one, and out of approximately about 3,500 anaesthetics given under my supervision at this institution during the year just closed, which included ether, nitrous-oxide and oxygen, chloroform, local, spinal and rectal anesthesia, I wish to mention our experience with spinal anesthesia, (or more properly analgesia, or insensibility to pain) in connection with our operative work in this hospital, where our range of cases is wide and varied.

The anaesthetic agent is tropacocaine hydrochloride crystals, which are dissolved in the spinal fluid itself; no other diluting fluid is used. This I term the "dry method" in contradistinction to other methods, in which a fluid such as sterile water or normal salt solution is used to dissolve the anaesthetic agent, as stovain, novocaine, etc., and this solution replaces the same amount of spinal fluid withdrawn.

Our tropacocaine is purchased by the pharmacist here usually in ten gramme lots, placed by him in glass ampules containing one grain of tropacocaine crystals, each, and then sealed up. It is placed in the sterilizer and subjected to a steam pressure of ten pounds and a temperature of 240 degress F. for a period of 20 minutes on two successive days and then stored for future use. The number of ampules necessary for the morning's operations are placed in alcohol

and removed as wanted when the cases come to the operating room.

The patient is set up or climbs up onto the side of the table with feet resting upon a stool, the back is bared and scrubbed with benzine and then painted with iodine. A sterile small operating sheet with a 5x7 aperture is placed over the back adjusting the aperture to the field of puncture which is usually at some point between the first and fourth lumbar vertebrae. The patient is then told to fold his arms closely across the abdomen, to bend well over and to flex head on the chest; this position gives a posterior curve to the lumbar vertebrae, thus separating them, allowing the puncture to be made more readily. Removing my syringe, spinal needle, a small file and one or two ampules of tropacocaine crystals from the alcohol, they are placed in a sterile towel beside the patient, together with two pledgets of gauze and a small piece of cotton and I am ready for the spinal puncture and injection after having of course washed and scrubbed my hands and passed them through the antiseptic solutions.

A glass ampule of one grain of tropacocaine is filed across and broken open with the sterile gauze plegget and emptied into the barrel of the empty syringe (one grain is all that I use for rectal work). The plunger is inserted and pushed down on the crystals in the barrel as far as possible with a slight grinding motion to exclude all air possible. The syringe is now laid down and the spinal needle of about 18 gauge and about 10 cm. in length and the stylet which fits inside the needle is wiped off and when the stylet has been inserted the needle is ready for use. The puncture site is now selected. For operations on the rectum, perineum and lower extremities I puncture between the third and fourth lumbar vertebrae, for hernia between the second and third and for higher abdominal incisions as for appendix and gall bladder the puncture is made between the first and second or even the interspace between the twelfth dorsal and first lumbar vertebrae is pierced in order to get the anesthetic influence to the higher nerves.

A line drawn across the back from one crest of the ilium to the other, falls on the body of the fourth lumbar vertebrae. Half an inch above this intersection will be found the interval between the third and fourth lumbar vertebrae which is the point we are seeking. On this level and three-eighths of an inch to either side of the midline the needle is thrust quickly through the skin, without any local anaesthetic, as the sensation is only for the moment, like the prick of an ordinary hypo needle, but larger. However, the difference is not

marked since the back is much less sensitive than the arms or legs. (Fifteen or more years ago, a local anaesthetic was used at the site of puncture, but two pricks were required instead of one, but now this has been abandoned as unnecessary by the later investigators.)

Aiming to go slightly upward and inward, so that the point of the needle, when it is in the flesh about two inches, will penetrate the dura mater in the midline, a resistance is felt as the needle meets and pierces this tough membrane. A sudden cessation of all resistance tells me that I am through the dura mater. The point of the needle is now in contact with the spinal fluid and when the stylet is removed the spinal fluid escapes. By placing my thumb over the head of the needle I prevent further escape of spinal fluid, and with the free hand I adjust the syringe to the head of the spinal needle.

With a twisting, grinding movement I slowly draw the plunger of the syringe outwards allowing the spinal fluid, which follows the plunger, to dissolve the tropacocaine. Solution is usually complete after the piston of the syringe has been moved in and out about eight times. Finally all of the fluid is returned to the spinal canal and with the exception of the small amount of fluid which remains in the lumen of the needle no spinal fluid is lost. I like to have the fluid push out the plunger a little, as this shows that the spinal fluid pressure is transmitted to the plunger which is evidence that my dosage is being deposited within the spinal canal, which is a very essential point. Failure to get anaesthesia is due to poor technic and a failure to get a free flow of fluid. The dissolved crystals of tropacocaine bathe the posterior sensory nerve roots of the cord with their toxic principle, thus inhibiting their sensitiveness below the point of injection and throughout their peripheral distribution, thus allowing tissues formerly under their control to be handled from an operative standpoint with impunity. If the dosage is large enough to disseminate in the spinal fluid and bathe the anterior motor nerve roots, the patient will be unable to move the muscles formerly controlled by these nerves while the toxic influence lasts. Anesthesia from one grain of tropacocaine in the average individual usually lasted forty-five minutes, and in some cases occasionally extended to one hour. Two grains usually lasted an hour and a half, and in quite a number of cases one and three-quarter hours, and a few cases to fully two hours, namely for varicose veins and fracture work.

After the plunger has been pushed home, sending the load of dissolved tropacocaine into the spinal column of fluid, the

syringe and needle are withdrawn together and the small point of injection is covered with a small piece of sterile cotton held in place with a little collodion, and the injection is finished. The injection has probably consumed three or four minutes, and the patient is ready for operation and in surgical anaesthesia below the point of injection in another four minutes, or as soon as he is on the operating table and scrubbed for operation and draped. If a tingling in the feet and a sense of warmth is not felt before entirely through the injection or in two minutes from the beginning, you may rest assured that your technic is faulty, and the toxic agent did not enter the canal. In only one case in this series, where I felt sure that my technic was not at fault, and the fluid was obtained with normal pressure, did I fail to get anaesthesia, and that case was a cocaine addict. In the ordinary case after two minutes, sensation about the rectum or anus is lost (the anus by the way, under ether anaesthesia is the last muscle to relax, while under spinal injection the sensation is lost at once and you can ask your patient to strain down a little and he can protrude the rectal mucosa through the sphincter, thus giving the operator a full view of the field of operation and still the patient has no pain sense.)

In about three minutes from starting the injection the patient is laid flat on the table and the head is raised with at least two pillows. This is important, with the idea in mind of keeping the respiratory center in the medulla higher than the general level of the spinal column, to avoid any toxic action or inhibition to the respiration. This is the danger of the Trendelenburg position, to which nearly all unfavorable symptoms are due.

For all rectal work the usual dose of tropacocaine crystals is one grain, for hernias and appendices, one and a half grains, or if you have a slow operator or a peculiarly difficult case or a double hernia, two grains are used. It is sometimes difficult to estimate at the time of giving the injection just what dosage to give as the operator may become involved in unforeseen difficulties, but if the anaesthesia wears off too soon a little ether can easily be added, as ether is an antidote for unfavorable spinal symptoms should they appear. (Ether is also a heart stimulant). For hernias, appendices and upper abdominal work a short Trendelenburg position is used as a continuous modified Trendelenburg position of ten or twelve degrees is allowable. Working on the theory that there is no apparent circulation in the spinal fluid, but an equalized pressure between the spinal fluid in the cord and the ventricles of the brain, through the foramen of Majendie, through

a balanced secretion and absorption, the action of the toxic tropacocaine must be by diffusion, as methylene blue might be diffused through olive oil if added slowly drop by drop. Consequently the spinal fluid, whose specific gravity has been slightly increased by the tropacocaine, settles by gravity at the point of injection downwards, and this downward direction can be controlled by the position of the body. Thus the injection reaches first the posterior sensory nerve roots at the point of injection and if it is desirous to retain the toxin at this point, the patient is at once laid upon his back, or the injection can be made on the side and the patient at once turned upon the back; but if you are going to operate on the rectum, perineum or extremities, the sitting posture is maintained for about three minutes in order to diffuse the toxic agent to the nerves controlling the operative field, namely the sacral plexus. This will allow all rectal work to be done, circumcisions, perineal, fracture and bone work, varicose veins and amputations of all kinds on the lower extremities and all forms of orthopedic work, etc., and the point of injection is between the third and fourth lumbar vertebrae. In operations above Poupart's ligament and abdominal incisions, you must temporarily put out of commission the nerves controlling these areas, consequently the injection is made one, two or three spaces higher, or else the Trendelenburg position is used to gravitate and diffuse the toxin to these higher levels. The Trendelenburg position should be used with extreme care. I seldom use the full forty-five degree position, but a modification of twenty degrees or less, and in a few minutes leveling them up to a lesser degree, where they may remain throughout the operation, in the usual case. This method of gravitation and site of puncture controls the desensitization of the nerves at the site of incision, which are the most important ones to control. By pinching the skin at the site of the incision one can tell whether you are ready to proceed or not. If not your technic has been faulty, you will either have to make another puncture or use ether or some other anaesthetic. In this series of cases, there have been about six cases in which puncture could not be obtained, owing either to ankylosed or deformed spine or inability to get a flow of fluid, and another anaesthetic was used. I doubt if there is such a thing as a "dry spine" but the vertebrae may be so distorted as to make it very difficult to reach the cord, but these cases become less with better technic.

With rectal, lower extremity and ordinary perineal work, no pre-operative medication is given, but with strangulated

hernias, cholelithiasis, acute appendicitis and a nervous worn-out patient, often with subnormal temperature, pre-operative medication and supportive measures are advised; as hypodermoclysis in breasts, adrenalin intravenously, atropine, camphorated oil by hypo as well as post-operative treatment on the ward, when patients are poor operative risks. Morphine can also be used if needed.

Spinal cases act as well as general anaesthetic cases with supportive treatment, but supportive treatment should be anticipated rather than delayed. Spinal anaesthesia will never displace general anaesthesia entirely, but it certainly has a field of its own, which is becoming wider as we become better acquainted with it, understand its peculiarities and improve our technic and realize its possibilities. In amputations it is very satisfactory, causing less shock by blocking off nerve sensation, also the patient is saved the strain of an inhalation anaesthetic, with possible choking up with mucus and vomiting. On return to the ward they can take nourishment which is also supportive, the stomach being in a normal condition to receive food. You can also converse with your patient as to the point of amputation, which might be quite an item under some circumstances. In rectal operations the sphincter is almost immediately well relaxed, and you can talk to your patient asking him to strain down a little, and the rectal mucosa is well protruded affording the operator a very satisfactory field for work. In fact a new operator under spinal analgesia will have to be conservative and not too radical in removing tissue as in a Whitehead operation, owing to the greater prolapse of tissue or after the spinal anaesthetic has worn off he will have too much contraction.

In rectal work here, operative analgesia from one grain of tropacocaine usually lasts forty-five minutes or more. In one case of carcinoma of the rectum, Percy cautery was used for thirty-five minutes removing a large mass of necrotic and granulation tissue, without pain, the patient, a woman, not moving a muscle or showing any signs of distress during the operation and pain did not appear until after the spinal analgesia had worn away and sensation returned to the operative field, after she was in bed on the ward.

Our rectal specialist was able under spinal analgesia and when conditions were favorable, by keeping things moving to complete seven rectal operations, such as cases of hemorrhoids, fistulae, strictures and ischiorectal abscesses, in one hour and a half, from the time that I started injecting the first patient to the time when he completed the last operation. Operative anaesthesia is usually secured in three or four

minutes. Of course while he was operating the first case I was injecting the next one and so on. This time included getting the seven patients in and out of the operating room using but one table to operate on, filling out each patient's operative chart and adding post operative directions in each case. This is only mentioned to show the speed that can be obtained if necessary, and the rapidity of the operative analgesia.

Of the 487 cases of spinal injection that I myself have given in the past year of 1917, the ages range between 16 and 93. In these operations are included the following:

	Cases
Rectal Region :	
Hemorrhoids	99
Rectal and anal fistulae	33
Ischio rectal abscesses	23
Carcinoma of rectum (cautery).....	5
Tubercular rectal abscess.....	5
Rectal structure	5
Anal abscess	2
Anal sinus	2
Abscess and anal fistulae	3
Fish bone in rectum	1
Prolapsed Rectum	3
Exploratory of rectum.....	1
Total	182
Genito Urinary Region (Male) :	
Removal Prostrate (supra pubic)	31
Suprapubic cystotomy	12
Vesicular calculus	4
Hydrocele	23
Varicocele	18
Perineal abscess	5
Removal of testicle	6
Prostatectomy and vesicular calculi.....	3
Multiple puncture epididymus etc.....	2
Perinephritic abscess	1
Prostatic abscess	5
Inguinal lipoma	1
Urethrotomies :	
Internal	1
External	3
Internal and external	5
Epididimectomy	2
Urethral fistulae	2
Extravesation of urine and drainage.....	1

Urethral calculi	1
Amputation of penis	2
Periurethral abscess	1
Plastic on foreskin	1
Punch operation on neck of bladder.....	3
Hernias:	
Single	40
Double	7
Strangulated	3
Ventral	1
Umbilical	1
Omental	2
Scrotal	1
 Total	 188
Genito Urinary Region (female):	
Perineorrhaphy	2
Trachelorrhaphy and Perineorrhaphy	2
Sutures in cervix for hemorrhage.....	1
Right ovarian cyst	1
Salpingo oophorectomy	1
Vesico-vaginal fistulae	1
Bartholin abscess	1
 Total	 9
Abdominal Region:	
Appendix	1
Intestinal obstruction	1
Drainage of liver abscess.....	1
Cholithiasis	1
Ruptured bladder	1
Removal of scar tissue.....	1
Exploratory laparotomy	1
Drainage fecal peritonitis	1
 Total	 8
Extremities:	
Fractures:	
Tibia and Fibula	20
Femur:	
shaft	3
head	1
Patella	1
Removal of loose semilunar cartilage.....	1
Removal of Lane's plates.....	4
Probing for bullet (leg)	2

Tendon transplant	1
Tenotomy of tendo achilles.....	1
Dislocation, subastragaloid	1
Removal of gonorrhreal spurs.....	1
Amputations:	
Thigh	5
Leg	14
Toes	7
Correction of flat foot	1
Correction of Hallux Valgus	6
Correction of Ingrowing toe nails.....	1
Tenotomy of toes	2
Plastic operation on bone (tibia).....	1
Tumor mass of right heel.....	1
Popliteal Aneurysm	1
Osteomyelitis (drainage)	4
Cyst of knee	2
Varicose veins:	
One leg	9
Both legs	4
Gas bacillus infection (drainage).....	1
Reamputation of stump	3
Arthritis, drainage of ankle.....	1
Aspiration of T.B. sinus (knee).....	1
Total	100
Grand Total	487

Our circumcisions on adults are usually done under local anaesthetic but if accompanied by varicocele, hydrocele or associated pathology are done under the one spinal anaesthetic.

One other advantage of spinal injection over local injection in the operative field is, that your toxic agent is well away from the field and has no tendency to slough, as the various local anaesthetics sometimes do as in the case of an occasional circumcision producing a slough (due to the local action of the toxic agent or interference with blood vessels to the part) due to separation by distention of tissues from pressure of excessive quantity of anaesthetic solution, perhaps improperly injected.

Of the 487 cases about ten were emergencies, and it was decided that spinal injection would cause the least shock. Of this number two died on the table due to the pathology present and abnormal temperature. The first case was a

strangulated femoral hernia, of fifteen hours duration, a frail thin anemic man of sixty years, in poor shape, operated on as a last chance; the second, a man of fifty-seven years with ruptured bladder, with subnormal temperature and already in shock. The other eight were returned to the ward in better condition than when they entered the operating room. One case, a Mexican, who when opened proved to have a ruptured gangrenous appendix with general peritonitis was operated under spinal injection and he left the hospital in just sixteen days, walking and well. Another case of intestinal obstruction who vomited fecal material, over a pint, during operation and from which we just after the operation removed, with stomach tube, another quart of fecal material, would have aspirated this vomitus if he had had an inspiration anaesthetic. Another case of a woman with hemiplegia, an intermittent heart and Cheyn-Stokes breathing, and kidney complications, from the County Farm, had no bowel movement for eight days, and distended with gas to the bursting point, was saved by operation under spinal injection. In this case the patient was turned on her side and $2\frac{1}{2}$ grains of tropacocaine was injected between the first and second lumbar vertebrae, then turned on her back, and incision made about nine inches long through four inches of fat and a turn and a half of the sigmoid released, which has dilated the bowel to a diameter of about five inches for a distance of five feet, the gas was removed by a colon tube, the distention disappeared and the abdomen closed as the bowel was not injured, and the patient made a good recovery.

The matter of headaches, we feel is influenced by the faulty technic of admission of air, due to a poorly fitted syringe to the head of the needle, or it is sometimes due to the loss of too much spinal fluid, which is not necessary. Spinal fluid taken on the wards of this hospital for Wassermann test frequently seem to show headaches two or three days later, on the theory that the removal of fluid alters the pressure in the cord and the ventricles of the brain, and causes a stimulation to secrete more fluid which is a slow process, and in three or four days there is a hyper-secretion of fluid, causing pressure, resulting in headache, which can be relieved by withdrawing a small amount of fluid, if found to be under more than normal pressure; or the conditions will right themselves in a few days so that the matter of keeping record of headaches has finally been abandoned and deemed unnecessary. In our rectal cases we usually move the bowels on the third day, at which time there is usually a more or less constipated stool, which frequently causes headache. Take an

ordinary individual, that is operated on for hemorrhoids for instance, probably never in an operating room before, and subject him to the ordinary pre-operative preparation of liquid supper, later a dose of castor oil and bowels flushed in the morning and no breakfast before operation and there are few patients that will not have an "all gone" feeling and have a headache or something worse the matter with them.

On the whole the headaches have seemed to be more of a circulatory origin, due to inactivity in bed and cold extremities etc., and these headaches can occur with any anaesthetic or with toxemia of any origin, so that headaches due solely to spinal injection are difficult to demonstrate since only a few drops are lost after diluting the tropacocaine crystals in the syringe for by drawing the spinal fluid into the syringe back and forth several times, the fluid in the syringe is all returned to the spinal column, and only the small amount left in the small calibered spinal needle fails to get again inside the dura mater.

Every patient that is anaesthetized is a law unto himself in his different makeup whether they have a general, local rectal or spinal anaesthetic. A toxic or anemic individual will take less, a strong hearty individual of either sex much more, and an alcoholic still more, to say nothing of morphine and cocaine addicts.

So we will have to gauge our spinal doses to suit the individual. My dosage of tropacocaine so far has been from one grain to two and a half grains. There does not seem to be much difference to the individual himself, outside of longer loss of pain sense, with the larger dose, and this has been born out by other investigators. The main thing is to be sure of your technic, know where your toxic agent is going to exert its influence, and protect the medulla by raising the head well, and be careful of extreme Trendelenburg position too long.

In my first twenty-five cases I had more or less indifferent results. One patient I could get the fluid well, the next there was difficulty in getting the fluid to flow well, and in about six cases due to changes in the spine or an extremely nervous patient ether was used instead. By studying a skeleton I decided to adopt the method of going to one side, instead of in the midline, in making the puncture as there is much more room; but you must calculate, so that when the point of the needle is in the tissues about two or two and a quarter inches, you are in the midline when you puncture the dura mater; otherwise you will go to one side of the spinal column and not enter the dura mater or else strike nothing but bone and

not be able to get in two and a quarter inches. A number of men still adhere to the midline puncture, and this is fairly easy to do if you are able to separate the lumbar spines sufficiently, but if you get a patient that will not arch the back well, the side puncture is preferable, also in punctures with patient too sick to sit up, the side method is easier on the patient, and you can still get the fluid which is the all important thing.

One old lady was operated on for varicose veins, for two hours, from a dose of two grains; she was a more or less toxic individual, with sluggish circulation and she took two or three cat naps on the table and even snored and her only complaint was that her legs felt numb and she could not move them. Just as the surgeon finished she drew his attention to a chronic perinephial abscess on her middle finger and when he injected her finger with a local anaesthetic, she fought him and nearly broke the needle off because it hurt, so the spinal injection must indeed have soothed her lower extremities for two hours at least.

I think with properly protecting our poor operative risks, before spinal injection, with supportive treatment, we can operate them with less risk, especially if heart, lung and kidney complications are present, and the operation is within the field of spinal analgesia, than with chloroform, ether or gas inspiration anaesthesia. The ordinary patient with fair resistance stands spinal injection well, and we do not usually give them either pre- or post-operative medication.

Having been impressed with the results we have been able to obtain in this hospital with this method for operative procedure, where the wide range of cases admits of ample comparison, and being in correspondence with other investigators at other points along this line, with similar agents, and different agents (as solutions), I feel that in presenting this rambling paper that I do so with an open mind, with a wish to know more, both by an extension of our efforts here, still further, namely to the field of obstetrics, with the idea of shortening protracted childbirth, especially in primiparas, with the hope of making the same more or less painless and of much shorter duration and the saving of many babies that might otherwise become asphyxiated on account of slow dilatation and relaxation of the parts.

It has been our conviction here that spinal injection was a more or less transitory poisonous influence upon the sensory nerve roots of the spinal cord and according to the dose, as one grain, the patient can be operated for forty-five minutes or thereabouts, and he will begin to feel the pain of the

operation and to move the toes from an hour and a half to two hours after the injection. The toxic principle is gradually disseminated or diffused in the vicinity of the injection, and later absorbed in the tissues, so that the operative time is limited with a small dose. The lymphatics and veins probably take up the toxic principle and elimination by the body is through the kidneys. I hope to give additional data later as more cases are observed and the cases can be followed up after they leave the hospital, but this takes more time than we have at our disposal at present. With the hope that this paper may benefit some of those with lesser opportunities, and that those with greater opportunities will discuss and criticise it, that we may all become more familiar with this interesting and valuable form of anaesthesia, its field, as indicated so far, its extension, its limitation and contraindications and peculiarities, this compilation has been made.

I will say in closing that novocaine works well in spinal injection but it is more amorphous and sticks to the glass ampule and 10% of the dose is thereby lost. It does not withstand as high a degree of sterilization as tropacocaine crystals do; and the latter are easier to deliver out of the glass ampule although they dissolve much more slowly. The tropacocaine however is 25% more toxic, therefore that much more potent, as the action on the cord is wholly toxic.

I think it is better to work with one drug and become acquainted with its possibilities and peculiarities, instead of experimenting with several. I prefer its use by the dry method as I have outlined.

PULMONARY OEDEMA

C. O. Hansen, M. D., Pasadena, California.

Read before the Los Angeles Eclectic Medical Society.

Pulmonary Oedema is a secondary condition. A symptom as a result of some remote primary affection which usually presents itself in the form of congestion of the lung which is accompanied with dyspnoea, cyanosis, cold sweat, orthopnea, great anxiety, bubbling rales in either or both lungs, coughing a white frothy expectoration in the nature of a serum, slightly tinted with blood. Onset sudden, oppression in breathing owing to agitation of serum in the air cells; the expectoration frothy, not unlike the beaten white of an egg, and when coughed into a receptacle will remain in that frothy state. The quantity will run as high as a quart. Authorities tell us that Oedema of the lungs is caused as a result of

emphysema, nephritis, anaemia, purpura, cardiac disease, etc., but this is to a great degree theoretical as the case is remote; the diagnostitian will associate the affection with any abnormal condition patient might be afflicted with. The condition is very rare, text-books have very little to say about such a distressing affliction; I say distressing, it is most frightful to the sufferer, the lungs filled with froth, the patient experiencing the exact feeling of a person drowning. The affection is neurotic as it manifests itself suddenly. The first symptom being a lowering pulse pressure, anxiety, cold sweat, and oppression in breathing, presently the rales can be heard without aid of stethoscope or by placing the ear to the affected area.

Acute Oedema is recognized from asthma or other conditions affecting the lungs by the great quantity white, slightly tinted pink, frothy serum coughed from the lungs. Great difficulty in inhaling air owing to froth filled lungs while in asthma the difficulty is in expelling the air. The treatment as suggested by writers, so far on the subject, are of no value whatever. There is no remedy known which will cure the affection, but the recurrent attacks can be checked, which relief is of incalculable service to the person affected when in the agony of pulmonary Oedema. The following case is a typical one of Acute Pulmonary Oedema.

My father, age 72, retired physician, always very active in his profession. Family history negative. For 20 years had been afflicted with frequent attacks of renal sand usually in individual grains, on passing the colic was severe, afterwards slight hematuria, after attack had passed no further symptoms of any kind. Urinalysis showed sp. gr. 1020, light amber, acid, normal quantity, no albumen, no sugar. Skiagraph revealed ragged condition of left kidney. Systolic blood pressure 160. Slight arterio-sclerosis, not to any greater extent than might be expected of a man of his age. July 15, 1916, he was awakened from sound sleep by sense of oppression and uneasiness, great anxiety, cyanosis and cold sweat, immediately after these symptoms there were mucous rales in both lungs plainly heard without aid of ear to chest. Coughing enormous quantities of frothy serum with pronounced odor of blood. Pulse regular slightly weaker, great agony, cold perspiration upon head and feet damp. Continued in this condition for four hours when it gradually subsided. August 18, 1916, second attack, same symptoms. August 20, 1916, slight stroke apoplexy when he lost sense of reasoning to great extent. Could not read or write, but all other functions seemed normal. October 4, 1916, third attack of

Oedema was threatening when I dissolved 1/200 gr. Nitroglycerine, 1/300 gr. Atropine Sulp., 1/16 gr. Morphine Sulp. in a hypodermic syringe and injected subcutaneously into the arm; in fifteen minutes the attack was entirely relieved. He had hundreds of attacks since that date with the same hypodermic medication and almost instant relief. March 1st we decided climatic conditions in Long Beach were not favorable to my father's symptoms and we came to Pasadena; found in getting farther away from the ocean he did not have attacks so frequently, all of which demonstrated to me climatic conditions can be an etiological factor to Pulmonary Oedema. As a result of stroke of apoplexy August 20, 1916, the patient was a semi-invalid and the mortal fear of attack of Oedema, he kept me with him constantly. I presume the reason he wanted me with him constantly was because I had discovered the remedy to relieve his suffering when the attacks came on. Some authorities advocate bleeding, dry cupping, oxygen, all will consume time with no results. Every moment to the patient is frightful suffering and must have relief as soon as possible. The hypodermic medication never failed. During the nine and one-half months that we were in Pasadena Father had not more than six attacks of Oedema coming on which were relieved instantly. December 16th, after nights of insomnia, Father died from second stroke of apoplexy.

HOLD YOUR LIBERTY BONDS

Secretary of the Treasury McAdoo urges the purchasers of Liberty Bonds of both the First and Second issues to hold fast to their bonds. They are the best investment in the world.

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THE CALIFORNIA ECLECTIC MEDICAL JOURNAL

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THE NATIONAL MEETING

The next annual meeting of the National Eclectic Medical Association will be held in Detroit, Michigan, on June 18th and 19th. The officers are busily engaged on the program, and as they are experienced in this sort of thing, there is no doubt of their success. However, you owe it to yourself, gentle reader, that your name should appear on the "roll of honor," even if you can not arrange to be among those present. Think it over carefully—but not too long—and send in the title of your paper. It is time to get busy.

A LUDICROUS DECISION

A most remarkable and far-reaching decision was recently made by the Supreme Court of Georgia. The decision was handed down in the case of Dr. C. L. Stahl versus C. W. Jordan. The doctor performed an operation on the defendant's child, but failed to save the patient's life, and for that reason the father refused to pay the doctor's bill. The court decided that, as the child died, the operation was of no ap-

parent benefit, and for that reason the father should not be compelled to pay the doctor's fee.

If this decision should be sustained it would have a very serious effect upon the medical profession, for it would establish a precedent to the effect that a physician cannot collect his fees unless he cures. Even in hopeless cases where the best medical skill can only expect to relieve pain and modify the patient's sufferings, the attending physician, under this decision, cannot collect any remuneration for his time and professional treatment, simply because he does not effect an impossible cure. This would turn the field of medical practice into a game of chance, with everything in favor of a dishonest patient, who, by claiming a failure to cure, would have nothing to pay.

It is almost inconceivable that any American court could have so far disregarded all sense of justice as to have handed down such an absurd decision, and an appeal to a higher court will no doubt result in its being reversed. There is no law which can cover any case in medicine except that requiring that the physician shall give the best of his skill and medical knowledge, based on scientific study and practical experiment, to every patient who applies to him for medical treatment. If the patient's condition is such as to make a cure impossible, that does not detract from the fact that the doctor's time must be expended, and that this time and skill should receive a suitable remuneration.

—J. W. F., in Eclectic Review.

ALPHA AND OMEGA

Alpha

Night. Silence. A struggle for the light.

And he did not know what light was. An effort to cry:
And he did not know that he had a voice.

He opened his eyes "and there was light."

He had never used his eyes before, but he could see with them.

He parted his lips and hailed this world with a cry for help.

A tiny craft in sight of new shores; he wanted his latitude and longitude. He could not tell from what port he had cleared; he did not know where he was. He had no reckoning, no chart, no pilot.

He did not know the language of the planet upon which Providence had cast him. So he saluted them in the one universal speech of God's creatures—a cry. Everybody, every one of God's children, understands that.

Nobody knew when he came. Some one said: "He came from heaven." They did not even know the name of the little life that came throbbing out of the darkness into the light. They had only said: "If it should be a girl."

And the baby himself knew as little about it as did the learned people gathered to welcome him. He heard them speak. He had never used his ears until now, but he could hear them. "A good cry," some one said. He did not understand, but he kept on crying.

Possibly he had never entertained any conception of the world into whose citizenship he was now received, but evidently he did not like it. The noises of it were harsh to his sensitive nerves. There was a man's voice—the doctor's, strong and reassuring. And one was a mother's voice. There was none other like it. It was the first music he had heard in this world. And the sweetest.

By and by somebody laughed softly and said, in coaxing tones:

"There—there—there—give him his dinner."

His face was laid close against the fount of life, warm and white and tender. Nobody told him what to do. Nobody taught him. He knew. Placed suddenly on the guest list of this changing old caravansary, he knew his way at once to two places—his bedroom and the dining room.

He looked young, but made himself at home with the easy assurance of an old traveler. Knew the best room in the house, demanded it, and got it. Nestled into his mother's arms as though he had been measured for them.

Found that "gracious hollow that God made" in his mother's shoulder that fit his head as pillows of down never could. Cried when they took him away from it when he was a tiny baby "with no language but a cry."

Cried once again, twenty-five or thirty years afterward, when God took it away from him. All the languages he had learned, and all the elegant phrasing the colleges had taught him, could not then voice the sorrow of his heart so well as the tears he tried to check.

Poor little baby! Had to go to school the first day he got here. He had to begin his lessons at once. God praised when he learned them. God punished when he missed them.

Bit his own toes and cried when he learned there was pain in this world. Studied the subject forty years before he learned how many more ways suffering can be self-inflicted.

Reached for the moon and cried because he couldn't get it. Reached for the candle and cried because he could. First lesson in mensuration. Took him fifty or sixty years of hard

reading to learn why God put so many beautiful things out of our longing reach.

By and by he learned to laugh. That came later than some of the other things—much later than crying. It is a higher accomplishment. It is much harder to learn and much harder to do. He never cried unless he wished and felt just like it. But he learned to laugh many, many times when he wanted to cry.

Grew so he could laugh with a heart so full of tears they glistened in his eyes. Then people praised his laughter most—"it was in his very eyes," they said.

Laughed, one baby day, to see the motes dance in the sunshine. Laughed at them once again, though not quite so cheerily, many years later, when he discovered they were only motes.

Cried, one baby day, when he was tired of play and wanted to be lifted in the mother arms and sung to sleep. Cried again one day when his hair was white because he was tired of work and wanted to be lifted in the arm of God and hushed to rest.

Wished half his life that he was a man. Then he turned around and wished all the rest of it that he was a boy.

Seeing, hearing, playing, working, resting, believing, suffering and loving, all his life long he kept on learning the same things he began to study when he was a baby.

Omega

Until at last, when he had learned all his lessons and school was out, somebody lifted him, just as they had done at first. Darkened was the room and quiet now, as it had been then. Other people stood about him, very like the people who stood there at that other time.

There was a doctor now, as then; only this doctor wore a grave look and carried a book in his hand. There was a man's voice—the doctor's, strong and reassuring. There was a woman's voice, low and comforting.

The mother's voice had passed into silence. But that was the one he could most distinctly hear. The others he heard, as he heard voices like them years ago. He could not then understand what they said; he did not understand them now.

He parted his lips again, but all his school-acquired wealth of many-syllabled eloquence, all this dear, lucid phrasing, had gone back to the old inarticulate cry.

Somebody at his bedside wept. Tears now as then. But now they were not from his eyes.

Then some one bending over him said: "He came from

heaven." Now some one, stooping above him, said: "He has gone to heaven." This blessed, unfaltering faith that welcomed him, now bade him godspeed, just as loving and trusting as ever, one unchanging thing in this world of change.

So the baby had walked in a little circle after all, as all men, lost in a great wilderness, are said always to do.

As it was written thousands of years ago: "The dove found no rest for the sole of her foot, and she returned unto him in the ark."

He felt weary now, as he was tired then. By and by, having then for the first time opened his eyes, now for the last time he closed them. And so, as one who in the gathering darkness retraces his steps by a half-remembered path, much in the same way as he had come into this world he went out of it. —Robert Burdette, in Medical Brief.

UNTOWARD INFLUENCES OF THE SALICYLATES

One of the most important subjects which can be studied by the practical physician is that which deals with the undesirable influence which may be exercised by drugs when they are administered for the purpose of removing certain symptoms, or curing certain conditions of disease. Unfortunately, practically every known drug has side effects even when it possesses considerable specific action, and because of idiosyncrasy, or because of the existence of certain changes in the functions, or the organic constitution of organs, by disease, these side effects may become dominant. In some instances the contraindications to the administration of an otherwise useful remedy may be so great as to absolutely prohibit its employment. Thus, where there is acute or subacute disease in the middle ear the administration of full doses of quinine may result not only in temporary but permanent impairment of hearing. A large number of instances might be cited illustrative of these facts. For these reasons investigations directed to the study of the side or untoward effect of drugs are always of interest and importance.

Two studies, one upon animals and one upon man, have recently been made by Hanzlik and Karsner, upon the changes in the kidneys which are induced by the administration of the salicylates in animals and persons whose kidneys are supposed to be normal, and in those in whom the kidneys were known to be diseased. They cite a good deal of the literature dealing with this important subject, and, from their studies in animals, express the belief that the equivalent of full therapeutic doses to human beings when given to dogs, cats and

rabbits causes the appearance of albumin, leucocytes, casts, or cast-like bodies, and sometimes red blood-corpuscles in the urine, that a pre-existing albuminuria is aggravated by the administration of the salicylates, and that this albuminuria has a direct renal origin, or, in other words, is due to influence of the drug upon the renal parenchyma. Changes in the non-protein nitrogen and urea of the blood would also seem to indicate that there is a diminution in renal functional efficiency, while microscopic lesions may be found in the kidneys, varying from simple cloudy swelling of the epithelium of the proximal convoluted tubules to extensive cloudy swellings of all the cortical portions of the tubules, associated with an acute glomerulitis, or, in other words, an acute tubular nephritis.

In connection with their investigations upon human beings they reached conclusions which are practically identical save that they did not make any report upon the mircoscopical examination of the kidneys. They believe that the findings in the urine of normal, rheumatic, non-rheumatic, febrile and afebrile persons are identical with those found in animals. They found that there was an increase in the non-protein and urea nitrogen of the blood, and the phenolsulphonephthalein excretion in human beings receiving the salicylates in what they called the "toxic dose" is retarded.

They do not believe that the administration of bicarbonate of sodium with the salicylates diminishes the evil influence of salicylates upon the kidneys. So far as we know, this is not the purpose for which bicarbonate is commonly administered. It is used rather to diminish the irritating effects of the salicylates upon the stomach, or to aid in the elimination of salicyluric acid, or, possibly, the poisons produced by the rheumatic infection.

While these investigations, if too seriously considered, might make physicians unduly timid in regard to the administration of the salicylates, nevertheless the fact that these changes are induced serves as a word of caution.

The doses administered to human beings, so-called toxic doses, were administered in the form of sodium salicylate expressed as salicylic acid, and varied from three to five drachms. The method of administration consisted in giving 20 Cc. of a ten-per-cent solution of salicylate of sodium with 80 Cc. of water every hour until the subject complained of the well-known symptoms of toxicity. These doses are, of course, larger than are commonly employed. After this the drug was stopped, but the water was continued in the dose of 200 Cc. every two hours until no more salicylic acid appeared in the urine.—Editor Therapeutic Gazette.

NEWS ITEMS

Dr. A. G. Smith has removed from Fairgrounds, Oregon, to Dennison Apartments, Belmont Street, Portland, Oregon.

Dr. and Mrs. John R. Buckingham, Big Pine, California, were in Los Angeles on their wedding journey the latter part of January. Dr. Buckingham reported for active service on Feb. 1st. The Journal extends congratulations to the Lieutenant and his bride and wishes them all kinds of good luck.

Dr. Q. A. R. Holton, Whittier, has been a frequent visitor at the Westlake Hospital where his daughter is convalescing following an operation for appendicitis.

Dr. I. Woodin, Independence, was in the city last month when he brought an accident case to The Westlake Hospital.

Dr. Harvey Crook, formerly of Long Beach, has moved to Big Pine and taken the location made vacant by Dr. Buckingham.

Dr. Oran Newton has moved from Long Beach to Taft, California, where his address is Box 693. He purchased the practice of a physician who has gone into the army.

Dr. John A. Sasso was the unfortunate victim of a peculiar accident on Feb. 12th. The Doctor, while walking along Broadway, Los Angeles, was knocked through a plate glass window when a large automobile was run on to the sidewalk. He is at The Westlake Hospital suffering from a compound fracture of the right femur and comminuted fractures of both tibias and fibulas, also a number of scalp wounds caused by glass.

The last meeting of the Los Angeles Eclectic Medical Society was held at the residence of Dr. J. A. Munk and was well attended. Dr. Hansen, of Pasadena, read a very interesting paper and supplemented it with many pertinent remarks. The paper is printed elsewhere in this Journal.

Dr. H. V. Brown, Los Angeles, was host at a dinner party last month in honor of Dr. Phillips of Santa Cruz and Dr. Pinkham of San Francisco, who were in Los Angeles attending the meeting of the California Board of Medical Examiners.

Jacob Franklin Lewis, M. D., Little Rock, Arkansas, Eclectic Medical Institute, Cincinnati, 1872; Bennett Eclectic Medical College, Chicago, 1880; aged 64; a member of the State Board of Medical Examiners of Kansas in 1879, of the Kansas State Board of Health in 1889, and of the Arkansas State Board of Health in 1908; past president and secretary of the Arkansas Eclectic Medical Society; was found dead from heart disease in his office, January 24.

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Concerning Echinacea.

WHAT IS ECHINACEA? A plant, native to western North America.

WHAT IS THE THERAPEUTIC STANDING OF ECHINACEA? In the opinion of renowned laboratory experts who standardize remedies according to physiological processes, Echinacea has no value. (See Lloyd Brothers' Winter Bulletin, 1915, page 13.) In the opinion of physicians who use remedial agents clinically, and who employ it in disease treatment, Echinacea is of exceeding value. (See Lloyd Brothers' Winter Bulletin, pp. 11 and 12).

WHAT PHYSIOLOGICAL OR POISONOUS QUALITIES HAS ECHINACEA? It has never been known to kill a creature on the operating table, be it reptile, amphibian or other animal. It seems inactive, physiologically. No chemist has reported that he has obtained from it a toxic agent, or any substance destructive to health. Thirty-eight years' continuous use of Echinacea by physicians in active practice, without a single report of injury or death, proves that it has no unkind action.

WHO INTRODUCED ECHINACEA? It was first used by the American Indians, next by the early white settlers, then it became a constituent of a home remedy in Nebraska. At last it came to the attention of Dr. John King, who after special investigation, introduced it under its true name to the medical and pharmaceutical professions.

WHO WAS DR. JOHN KING? A physician of unusual talent and education, a believer in conservative medication, an author of international reputation, an American citizen who opposed wrong, however high the authority, and who supported the right, regardless of self-interest. A believer was he in kindness to the sick, a disbeliever in cruelty, to either sick or well, brute or human. The best versed physician of his day in the clinical uses of American drugs, Dr. John King was acknowledged to be. His greatest pride was to serve in the development of American vegetable remedies. His sincerest hope was to see America professionally independent of the rest of the world.

TRIBUTE OF DR. CHARLES RICE. This is what Dr. Charles Rice, Chairman for thirty years of the Committee on Revision of the Pharmacopeia of the United States, said of Dr. John King and his great work, the *American Dispensatory*:

"It constitutes a precious encyclopedia of medical American plants, and their therapeutical uses. It is a very useful work for reference. Its author is as fine a botanist as a judicial observer of therapeutical effects." *Translation from the French of Dr. Charles Rice's "Note sur Certains Medicaments Vegetaux Americains"*.

WHEN DR. KING SPOKE. The voice of Dr. King in behalf of a remedy, was no idle word. In the maturity of his experience he used Echinacea in his own family, then in his practice, and when he had thoroughly tested the remedy, he gave to the profession his opinion of the drug.

A PREDICTION. Twenty years ago, it was said of Echinacea, "Await the voice of time. If Echinacea stands the test of experience, it will live. If it is inadequate, it will die". Has "Time" spoken?

THE REPLY. The most popular American drug today, (1915), as shown by the orders we have received from pharmacists for true pharmaceutical preparations of any American drug, (not compounds or mixtures named after the drug), for the exclusive use of physicians, is Echinacea.

ECHINACEA TODAY. Our Winter Bulletin, 1915, pages 11 to 13, presents reports from pharmacologists, conflicting with those from practicing physicians, concerning the therapeutic use of Echinacea. That the laboratory standardizers are correct (see page 13), in that Echinacea is not toxic and will not kill any creature, will be generally conceded. That practicing physicians are not capable of judging of the value of the remedies they use in their practice will be universally resisted.

WHAT OF THE FUTURE? Physiological investigators will probably never be able to produce death by the use of any ordinary Echinacea dose. Chemists will probably continue to find Echinacea elusive, so far as the discovery or elaboration of any toxic constituent is concerned. And American physicians who use Echinacea will probably continue to employ and commend it, as they have in the past.

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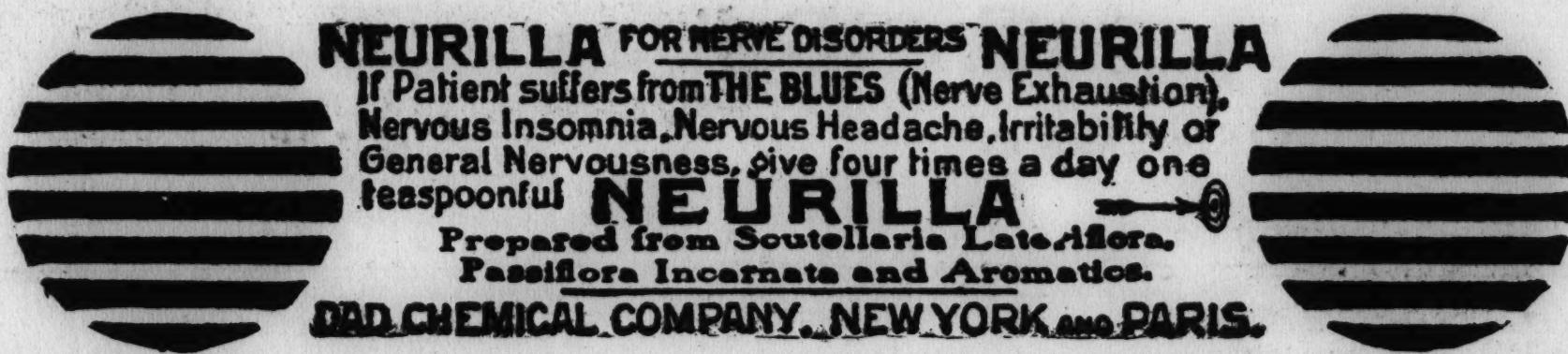
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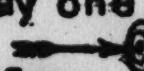
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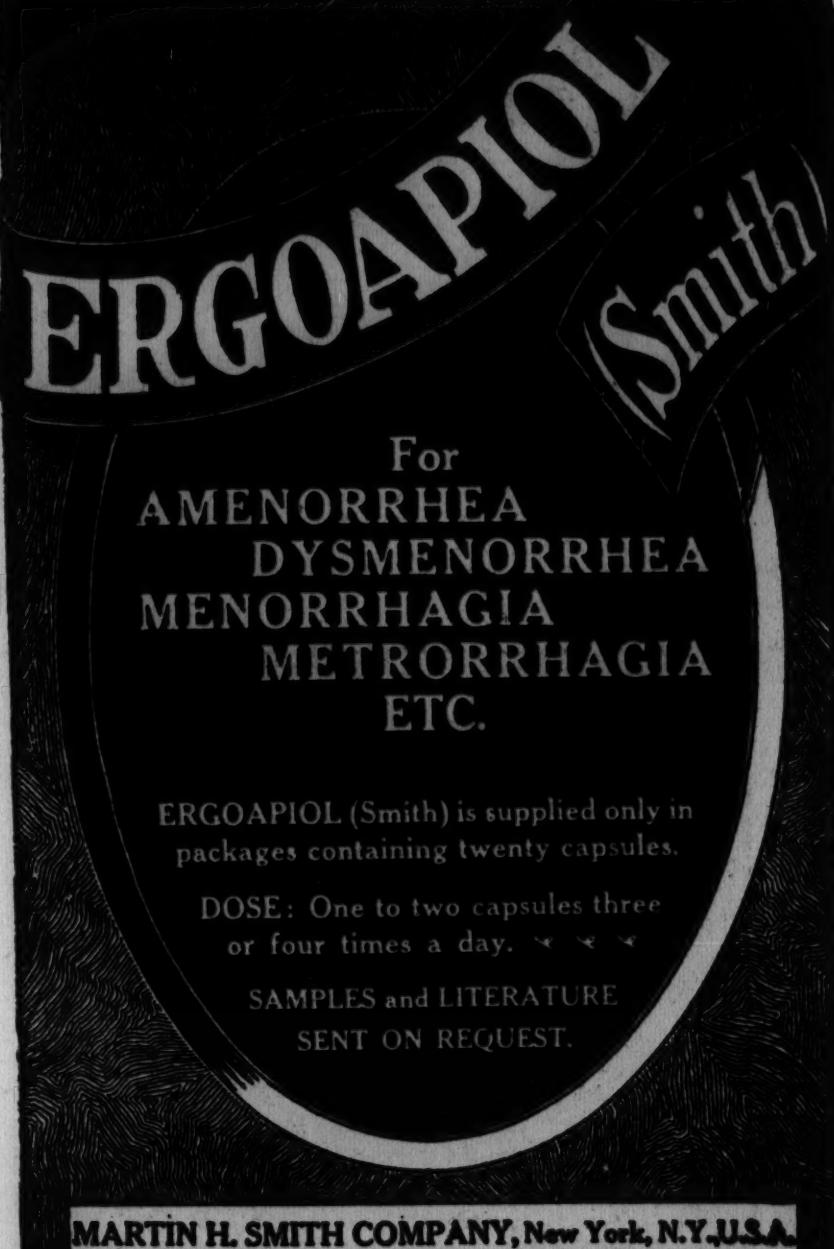
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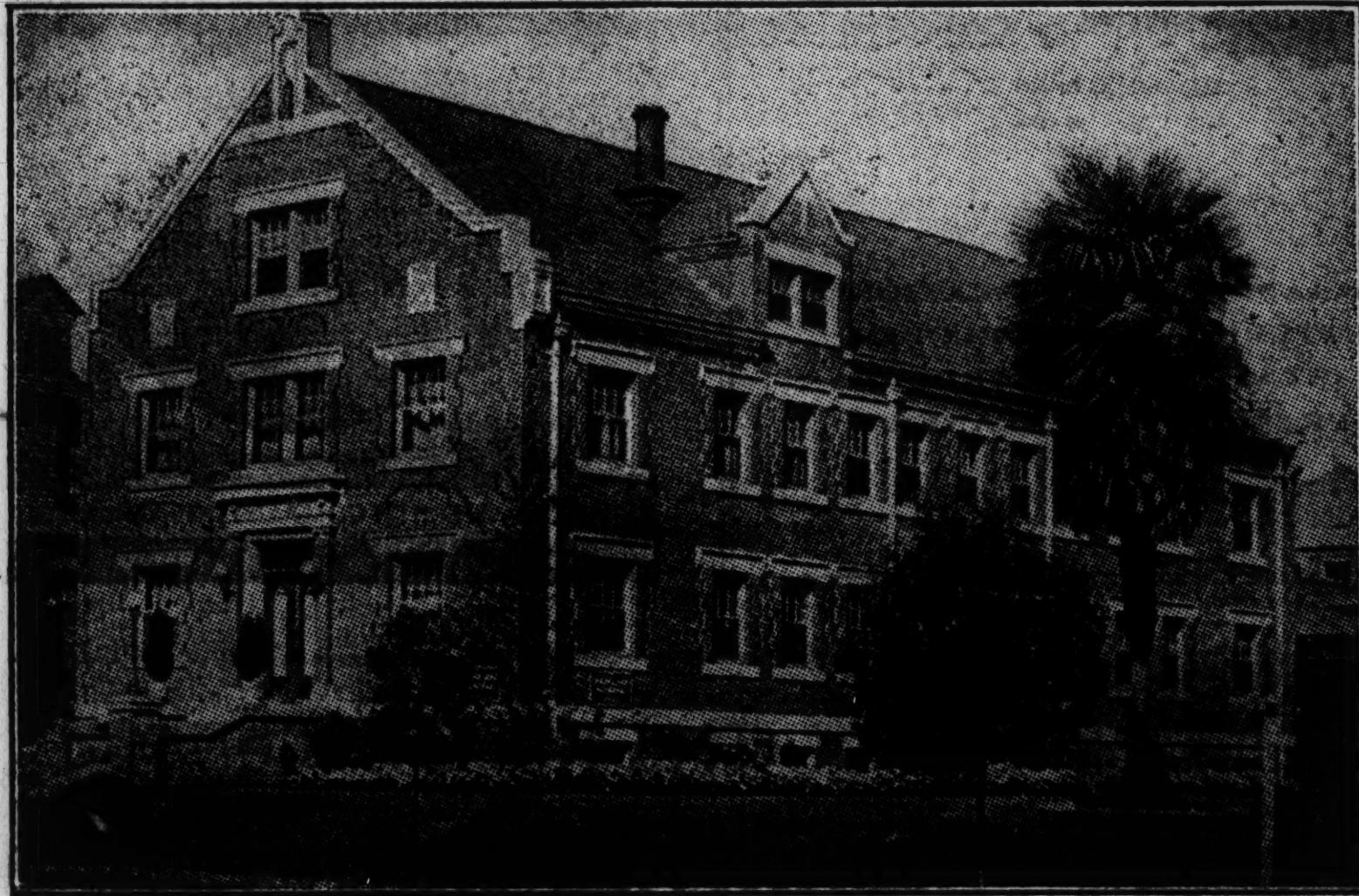
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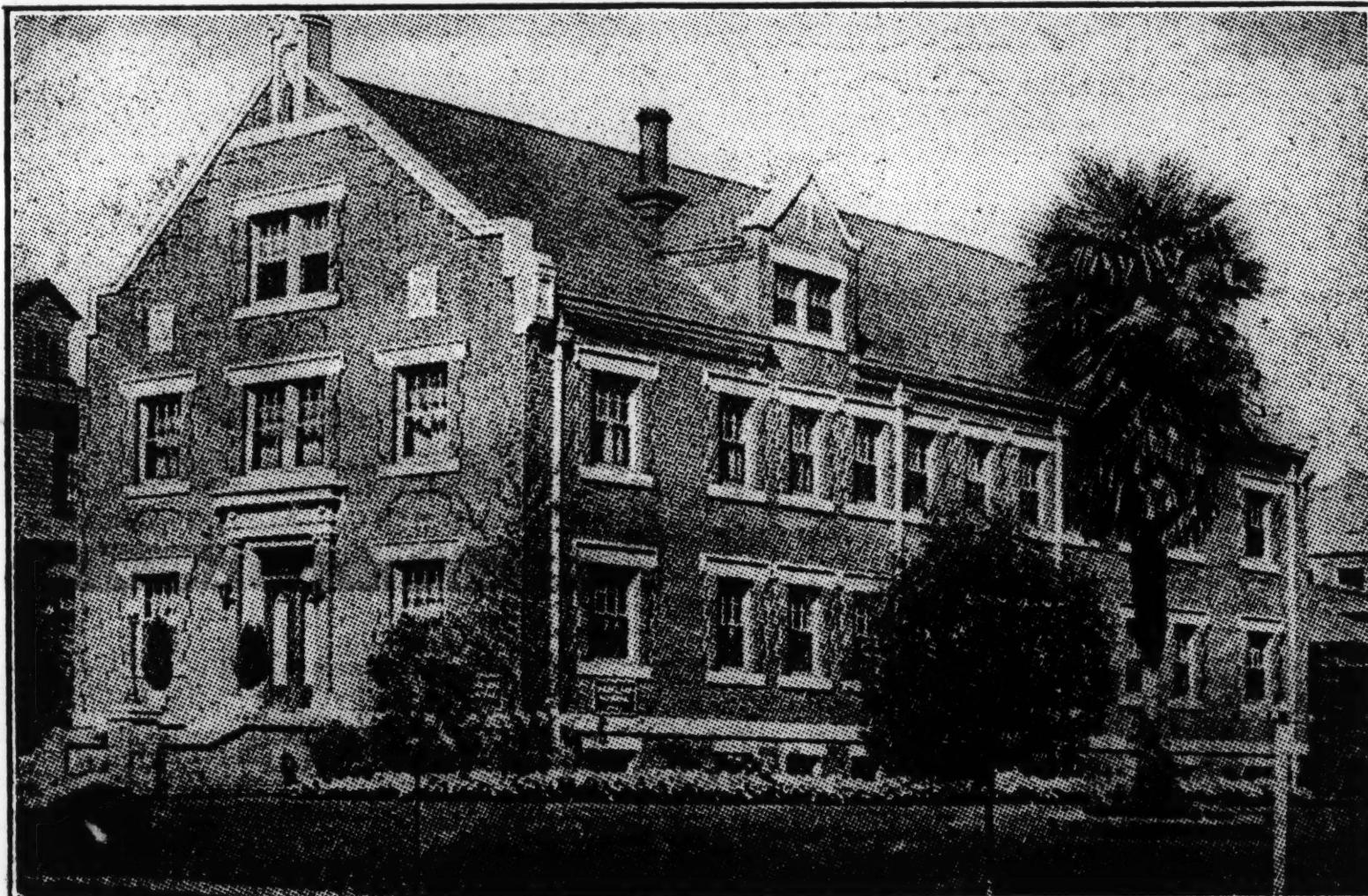
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